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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/627,738

07/28/2003

Arie Ariav

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04/12/2005

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EXAMINER

GONZALEZ, JULIO C

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 04/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/627,738

Applicant(s)

ARIAV, ARIE

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-15 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 5-7, 16 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. If applicant desires benefit of a previously filed application under 35 U.S.C. 119(e), specific reference to the earlier filed application must be made in the instant application. For benefit claims under 35 U.S.C. 119(e), 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part, provisional) of the applications. This should appear as the first sentence(s) of the specification following the title, preferably as a separate paragraph unless it appears in an application data sheet.

This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2)

or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: in figure 3, elements 23a, 23b. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Election/Restrictions

3. Applicant's election with traverse of Group I in the reply filed on 02/17/05 is acknowledged. The traversal is on the ground(s) that both groups of claims are very similar since one claims the structure and the other group the method in which the structure functions. This is found persuasive because the claims were analyzed again and found that both groups of claims encompassed the same invention. This Office Action will take into consideration claims 1 – 20.

Claim Objections

4. Claims 13 and 14 are objected to because of the following informalities: The limitation “said liquid” lacks antecedent basis. It may seem as is claims 13, 14 are dependant on claim 12 and not on claim 11. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 9, 11 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by McLean (US 3,563,245).

McLean discloses a method/apparatus having a transducer 6 for sensing pulsations of the subjects' cardiovascular system, more specific the heart 3 (see figure 2) and converting the pulsations into electrical energy (see abstract; column 2, lines 63-69; column 3, lines 33-37).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2, 3, 8, 12, 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over McLean (US 3,563,245) in view of Kieval et al (US 6,850,801).

McLean discloses a method/apparatus having a transducer 6 for sensing pulsations of the subjects' cardiovascular system, more specific the heart 3 (see figure 2) and converting the pulsations into electrical energy (see abstract; column 2, lines 63-69; column 3, lines 33-37).

However, McLean does not disclose using the cardiovascular system's pulsations to pump a magnetic liquid with respect to an electrical coil to generate electricity.

On the other hand, Kieval et al discloses for the purpose of reducing and preventing damage to carotid nerves and tissues, using pulsations of the cardiovascular system to drive baroreceptors (column 3, lines 64-67) and using magnetic fluid 222 (column 15, lines 1-3), which interacts with a coil 224 (see figure 10B) to create a magnetic field (column 14, lines 57-62). Kieval et al teaches inherently that the interaction of the coil 224 and the magnetic fluid 222 is able to create electricity by using lead 226 since it discloses that the coil 224 and the magnetic fluid 222 create a magnetic field. It is also disclosed that the device may be placed next to an artery (column 3, lines 49-53).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a method/apparatus for generating electricity using the cardiovascular system as disclosed by McLean and to use the teachings of Kieval et al to modify the invention by using magnetic fluid interacting with a coil for the purpose of reducing and preventing damage to carotid nerves and tissues as taught by Kieval et al.

9. Claims 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McLean (US 3,563,245) in view of Wen (US 3,456,134).

McLean discloses a method/apparatus having a transducer 6 for sensing pulsations of the subjects' cardiovascular system, more specific the heart 3 (see figure 2) and converting the pulsations into electrical energy (see abstract; column 2, lines 63-69; column 3, lines 33-37).

However, McLean does not disclose using a piezoelectric device being driven by pulsations of the cardiovascular system.

On the other hand, Wen discloses for the purpose of increasing the output power of resonators that a crystal 10 moves in response to body movement and due to the resonating characteristics, electricity is generated (see figures 2, 4 & column 2, lines 20-28). Moreover, it is disclosed that the crystal 10 is a piezoelectric device (column 1, line 66).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a method/apparatus for generating electricity using the cardiovascular system as disclose by McLean and to use modify the invention by using a piezoelectric device being driven by body motion for the purpose of increasing the output power of resonators as disclosed by Wen.

10. Claims 4, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over McLean and Kieval et al as applied to claims 2 and 11 above, and further in view of Herman, Jr.

The combined method/apparatus discloses all of the elements above. However, the combined method/apparatus does not disclosed that the magnetic liquid is pumped in a closed-loop path enclosed by an electrical coil.

On the other hand, Herman, Jr. discloses for the purpose of controlling effectively the movement of liquids in containers, using magnetic fluid being inside a closed-loop path device 70, which is enclosed by electrical coil 81 (see figure 7) and the fluid moves inside device 70 by inducing a magnetic field (see figure 6 & column 9, lines 8-27, 53-58). Also, it is discloses that the fluid can be magnetic fluid (column 14, lines 3-5) and closed-loop system can be implemented in the field involving cardiovascular systems such as the heart and arteries (column 11, lines 43-45).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined method/apparatus as disclosed above and to use the movement of fluid in a closed-loop system interacting with a coil for the purpose of controlling effectively the movement of liquids in containers as taught by Herman, Jr.

Allowable Subject Matter

11. Claims 5, 6, 7, 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With respect to claim 5, the prior art fails to disclose that the closed-loop path is partly defined by a displaceable member mechanically coupled to the part of the cardiovascular system so as to be cyclically displaced by the pulsations of the subject's cardiovascular system.

With respect to claims 6, 7, such claims are dependant on claim 5.

With respect to claim 16, the prior art fails to disclose that annular liquid chamber is defined by an outer, circular stiff wall and an inner circular flexible wall, mechanically coupled to the subject's cardiovascular system by one or more loops encircling both, the subject cardiovascular system and the inner, circular flexible wall.

With respect to claims 17, it is dependant on claim 16.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is 571-272-2024. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jcg

April 7, 2005


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